GOVERNMENT OF INDIA
DEFENCE
LOK SABHA

UNSTARRED QUESTION NO:2940
ANSWERED ON:02.12.2016
Deficiency in Critical Aerospace Technology
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Will the Minister of DEFENCE be pleased to state:

(a) whether deficiency in critical aerospace technology came to the fore when Gas Turbine Research Establishment (GTRE) made Kaveri engine could not propel the indigenous Light Combat Aircraft (LCA) to the skies and if so, the details thereof;

(b) whether there is a need to be self reliant in critical aerospace technology and if so, the details thereof;

(c) whether the Government proposes to set up a dedicated research facility that would focus on critical component needs for propulsion in aerospace sector;

(d) if so, the details thereof and the steps taken by the Government in this regard;

(e) whether the Government seeks participation of Indian Institutes of Technology and other institutions in defence manufacturing to decrease dependence on foreign technology; and

(f) if so, the details thereof and the success achieved in this regard so far?

Answer

MINISTER OF STATE (DR. SUBHASH BHAMRE)
IN THE MINISTRY OF DEFENCE
????? ????? ?????? (??. ????? ?????)

(a) Kaveri engine development was an indigenous effort of Gas Turbine Research Establishment (GTRE) for mastering one of the most complex technologies. Altitude Testing and Flying Test Bed trials have been completed which are major milestones in any gas turbine engine development. The other development problems are addressed to make the engine flight worthy through indigenous as well with assistance from abroad Engine Houses.

(b) Yes, Madam. All efforts have been made by Ministry of Defence (MoD), Defence Research and Development Organisation (DRDO), Defence public Sector Undertakings (DPSUs) & Ordnance Factory Board (OFB) to achieve self-reliance in critical technologies. The self-reliance has to spread across design, materials, manufacturing, testing and certification aspects of aero-engine and considerable progress has been made towards the same through the Kaveri engine development programme.
(c) & (d): The following DRDO laboratories are fully dedicated towards aeronautical research.
> Aeronautical Development Establishment (ADE) − Morphing Aircraft Technologies.
> Aeronautical Development Agency (ADA) − Aircraft Design & Development.
> Gas Turbine Research Establishment (GTRE) − Gas Turbine Aero Engines.
> Defence Research & Development Laboratory (DRDL) − Hypersonic Propulsion.
> Advanced System Laboratory (ASL) − Solid Propellant Combustion Modelling.
> Centre for Airborne System (CABS) − Design & Development of Airborne Surveillance System.
A dedicated programme on "Gas Turbine Enabling Technology (GATET) has also been sanctioned by DRDO at a cost of Rs. 78 Crore to facilitate academia and research institutions to carry out R&D in aerospace sector.

(e) & (f): DRDO has made all efforts to augment aerospace technology capability of the country with dedicated research facilities at Indian Institutes of Technology (IITs), located at Mumbai and Chennai by creating 'Centre of Propulsion Technology (COPT)'; and also at Indian Institute of Science (IISc) through 'National Centre for Combustion Research & Development' (NCCRD).
Though the manufacturing is not the mandate of DRDO, however, research pertaining to various areas of manufacturing technology such as machining, metal forming, metal joining, etc. are being pursued in recent times through academia and R&D establishments and these are progressing well. Moreover, DRDO has involved academia and private industries right from the inception of project.
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